BR 235/31.05.2014

MEASUREMENT BOOK

At & Final.

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	Name of Work:- Improvements to R.C.C. drain & concrete Roads at Shettyhalli bad reaches in ward no-12 in S.S.D						
	Agency:- Technical Manager (HESE) KRIDL						
	WO :- No EE/DD/WO/152/13-14 Dt:- 25/10/2013						
	JC :- 12-11-00008 Est cost :- 99.0 lakhs.						
	Measured on 29/5/14						
J-1	**Earth work excavation for** Foundation of buildings culverts water supply sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width in ordinary soil not exceeding 1.5m in depth including dressing the bottom & sides of pits & trenches stacking the excavated soil clear from edges						

M. A. R. 57 (Rule 116)
Measurement Book

No. B 83132

From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Full description, etc, of work	Number	Dimensions: Length	Dimensions: Breadth	Dimensions: Depth	Contents	Reference to last Measurement
2	3	4	5	6	7	8
Excavation with all lead & lift complete as per Specification.					1688·55 cum	
Vide Pg no 83184 1/2 of this M.B					151·74	
of 83194					M.- 256221·00	
Excavation and removal of silt or silt mixed with Sand in Slushy condition from canal bed including disposal of the same in said bank cum the embankment in layer as directed etc, complete					321·07 cum	
Vide Pg no. 83181 1/2 of this M-B.				@	107·00	
					M.- 34354·00	

1	2	3	4	5	6	7	8
I-3.	Removing B.S. Slab drain & Stacking. Qty vide Pg no - 831 79/2		of this M.B.			1070·23 sqm 49·18 Rs - 52634·0	
I-4.	Refixing of Stone Slabs of chairs & pointing in cm (1:3) as per drawing Qty vide item no-③				@ 68·74	1070·23 sqm Rs - 73568·	
I-5	Sand filling in foundation Trenches as per drawing and technical Specification. Qty vide Pg no 831 86/1 596.66 Qty limited		of this M.B. tender.		@ 2098·42	546·66 cum Rs - 11470	576·66

M. A. R. 57 (Rule 116)
Measurement Book

No. B

83133

From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Full description, etc, of work	Number	Dimensions: Length	Dimensions: Breadth	Depth	Contents	Reference to last Measurement
2	3	4	5	6	7	8
Providing and laying position plain cement concrete @ mix M-10 with opc cement @ 220kgs using 40mm down size graded granite metal coarse aggregates @ 0.465cum machine mixed concrete laid in layers not exceeding 15 cm thick well compacted in foundation and plinth & cost of all materials labours T&M of machinery curing complete as per specification Pg-69 wj vide pg no 83135 /1 of this M.B. @					262.80cum 4497=12	Rs- 1181843=00

M. A. R. 57 (Rule 116)
Measurement Book

No. B

83134

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Full description, etc, of work	Number	Dimensions		Depth	Contents	Reference to last Measurement
		Length	Breadth			
2	3	4	5	6	7	8
No deduction	1	30·0	$\frac{4·3+3·4}{2}$	Avg depth 0·10	= 11·55 sqm	
	1	27·0	$\frac{3·4+4·7}{2}$	0·10	= 10·93 sqm	
	1	30·0	$\frac{3·9+3·6}{2}$	0·10	= 11·20 sqm	
	1	30·0	$\frac{3·6+3·9}{2}$	0·10	= 11·25 sqm	
R/S Node	1	30·0	$\frac{3·9+3·4}{2}$	0·10	= 10·95 sqm	
	1	30·0	$\frac{3·4+3·0}{2}$	0·10	= 9·60 sqm	
	1	30·0	$\frac{3·0+3·1}{2}$	0·10	= 9·15 sqm	
	1	11·10	$\frac{3·1+3·0}{2}$	0·10	= 3·38 sqm	

MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
		1	30.0	$\frac{4.0+4.1}{2}$	0.10	= 9.11 cum	
		1	30.0	$\frac{4.1+4.0}{2}$	0.10	= 9.11 cum	
		1	30.0	$\frac{4.0+4.0}{2}$	0.10	= 9.0 cum	
		1	2.0	$\frac{4.0+3.9}{2}$	0.10	= 0.593 cum	
						175.20 cum	
						@ 6464-88	
						Rs. 1132647-	
J-8.	Providing and fixing 20mm thick compressible fibre board in expansion joint complete as per specification	1	41			= 4.1 m	
		1	43			= 4.3 m	

M. A. R. 57 (Rule 116)
Measurement Book

No. B

83135

From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Full description, etc, of work	Number	Dimensions: Length	Dimensions: Breadth	Dimensions: Depth	Contents	Reference to last Measurement
2	3	4	5	6	7	8
	1 ×	3.10			= 3.10 m	
	1 ×	3.0			= 3.0 m	
	1 ×	4.0			= 4.0 m	
	1 ×	4.2			= 4.20 m	
	1 ×	5.10			= 5.10 m.	
					27.80 m	
					Limited to tender 20.0	
					@ 137 = 16 M	1-274 3-00
providing & laying reinforced cement precast slabs of mix 1:1½:3 using 20 mm & down size graded granite						

MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measureme
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	metal cying HYSD 10mm Steel @ 100mm c/c both ways Complete as per specification					74.5T	
	NPS/10		139 × 0.60 × 0.90			= 75.06 Sqm @ 1963-60 M- 147388	
J-10	providing and fixing pre cast solid concrete kerb Stone made out of cc 1:2:4 and finished with CM 1:3 and finishing cutting etc., complete of size 450×200×400mm					146327	
	Kalatakkiy Main road		76 Nos			= 76.0 Nos @ 316-44 M- 24049-6	
J-11	providing and applying ready mix priming coat over						

M. A. R. 57 (Rule 116)
Measurement Book

No. B

83136

From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Full description, etc, of work	Number	Dimensions			Contents	Reference to last Measurement
		Length	Breadth	Depth		
2	3	4	5	6	7	8
Over Concrete masonry / asbestos cement sheet / plastered surface including preparing the surface after thoroughly cleaning of oil grease dirt & other foreign matter and sand preparing including cost of materials, labour complete as per specifications.	1	76.0		0.40	30.4 sqm @ 23.76 Rs	722.00
Painting to coats after filling the surface with synthetic enamel paint in approved Shades on new plastered concrete surfaces with material labour complete as per specifications.						

MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measureme
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
		1	~~Ba~~ 76·0		× 0·40	= 30·40	
					@ 51=81	Rs	1576=00
I-13	Clearing of the existing black topped surface with brooms soft bushes and finaly dessting with old gunny bags and/or compressed air to receive bituminous treatment including cost of all materials labour HOM of machineries complete as per Specification.						
	Bg vide pg no 83191/2		of this		M.B.	8535=00 @ 2=59	Rs 22106=00
I-14	~~Providing laying Spreading and compacting graded stone aggre~~						

M. A. R. 57 (Rule 116)
Measurement Book

No. B

83137

From ..... To .....

Name & Character of nature of Agency.....

Date of commencement of work.....

Full description, etc, of work	Number	Dimensions		Depth	Contents	Reference to last Measurement
2	3	Length 4	Breadth 5	6	7	8
Construction of granular Sub-base by providing close graded material mixing in a mechanical mix plant at one carriage of mixed material to work site Spreading in uniform layers with motor graders on prepared surface and compacting with Vibratory roller to achieve the desired density complete as per specification orders vide pg no 83187/1 of this M.B.					280.35 cum @ 1015.20 Rs	= 284611=00
Providing laying Spreading and compacting graded						

MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Refere to las Measure
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	Stone aggregates to WBM mix macadam specifications including premixing the material with water at OMC in mechanical mix plant carriage of mixed material by tipper to site laying in uniform layers with paver in sub base base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per specification Rate vide pg no 3188 of this M.B.					467.25 cum @ 1121.04 Rs - 523806	
I-16	Providing and applying primer coat from 7.5 to 9.8 kg and 9.8 to 12.2 kg /10 sqm for surfaces of low and medium porosity respectively over prepared						

M. A. R. 57 (Rule 116)
Measurement Book

No. B 83138

From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Full description, etc, of work	Number	Dimensions Length	Breadth	Depth	Contents	Reference to last Measurement
2	3	4	5	6	7	8
Surfaces of granular base with cut back M.C-70 or any other bitumen mixed with diesel at 10 kg/ 10 sqm heated in bitumen boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials labour Hire of machineries Complete as per specification.						
Qty vide pg no 83188/1 of this M.B. @ 80=78					1869.0 sqm	806=00
					M- 150978=00	
Tack coat - providing and laying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.30 kg / sqm on the prepared						

MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Referen to last Measuren
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	bituminous/ granular surface cleaned with mechanical broom complete as per specification					8535.05 sqm	
	duly vide pg no 8319 2/, of this M.B					@ 11-99 Rs.	10 & 335
I-16	providing and laying bituminous macadam on prepared surface with crushed coarse aggregate as per design mix formula for base/binding course as with FE loader hot mix plant 40 tonne capacity transporting the mixed material in tipper to site. required level & grade finisher to the required level & grade, rolling by power rollers to achieve the desired density 50/75 mm compacted thickness with 3·3% bitumen by excluding						

M. A. R. 57 (Rule 116)
Measurement Book

No. B

83139

From ..... To .....

Nature of Agency.....

Name of work.....

Reference to last Measurement 8	Full description, etc, of work 2	Number 3	Dimensions Length 4	Dimensions Breadth 5	Depth 6	Contents 7	Reference to last Measurement 8
(335	Cost of primer / tack coat with lead upto 1 km complete as per specification						
	Avg wide pg no 83188/2	01			this M.B.	@ 6646.32	93045.00 / 621099.00
	Providing and laying bituminous concrete with 100-120 TPH batch type hot mix plant producing an average output of 75 MT per hour using crushed aggregates of specified grading premixed with bituminous binder at 5.1 to 5.6% mix & then transporting the hot mix to work site.						

MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Refere to la Measure
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	Laying with a hydrostatic paver finisher with Sensor control to the required grade level & alignment rolling with smooth wheeled rotatory tandem rollers to achieve the desired compaction complete in all respects complete as per specification 30-45 mm compacted thickness (grading II) with 5% bitumen 80/100 grade using AC - 60mm D Avg thickness						
		1	7.20	11.0+9.0 / 2	x 0.04	= 2.88cum	
		1	30.0	9.0+7.3 / 2	x 0.04	= 9.18cum	
		1	22.0	7.3+7.5 / 2	x 0.04	= 6.51cum	
	Kalatalkies Main Road. From SM Road to Forest Road						

M. A. R. 57 (Rule 116)
Measurement Book

No. B

83140

From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Full description, etc, of work	Number	Dimensions		Depth	Contents	Reference to last Measurement
		Length	Breadth			
2	3	4	5	6	7	8
	1	7.0	7.8+6.9 / 2	0.04	= 2.05 cum	
	1	30.0	6.9+6.1 / 2	0.04	= 7.80 "	
	1	30.0	6.1+7.5 / 2	0.04	= 8.16 "	
	1	30.0	7.5+6.9 / 2	0.04	= 8.64 cum	
	1	30.0	6.9+6.9 / 2	0.04	= 8.28 "	
	1	30.0	6.9+6.2 / 2	0.04	= 7.86 "	
	1	30.0	6.2+6.0 / 2	0.04	= 7.32 "	
	1	30.0	6.0+7.3 / 2	0.04	= 7.98 "	

M. A. R. 57 (Rule 116)

Measurement Book

No. B

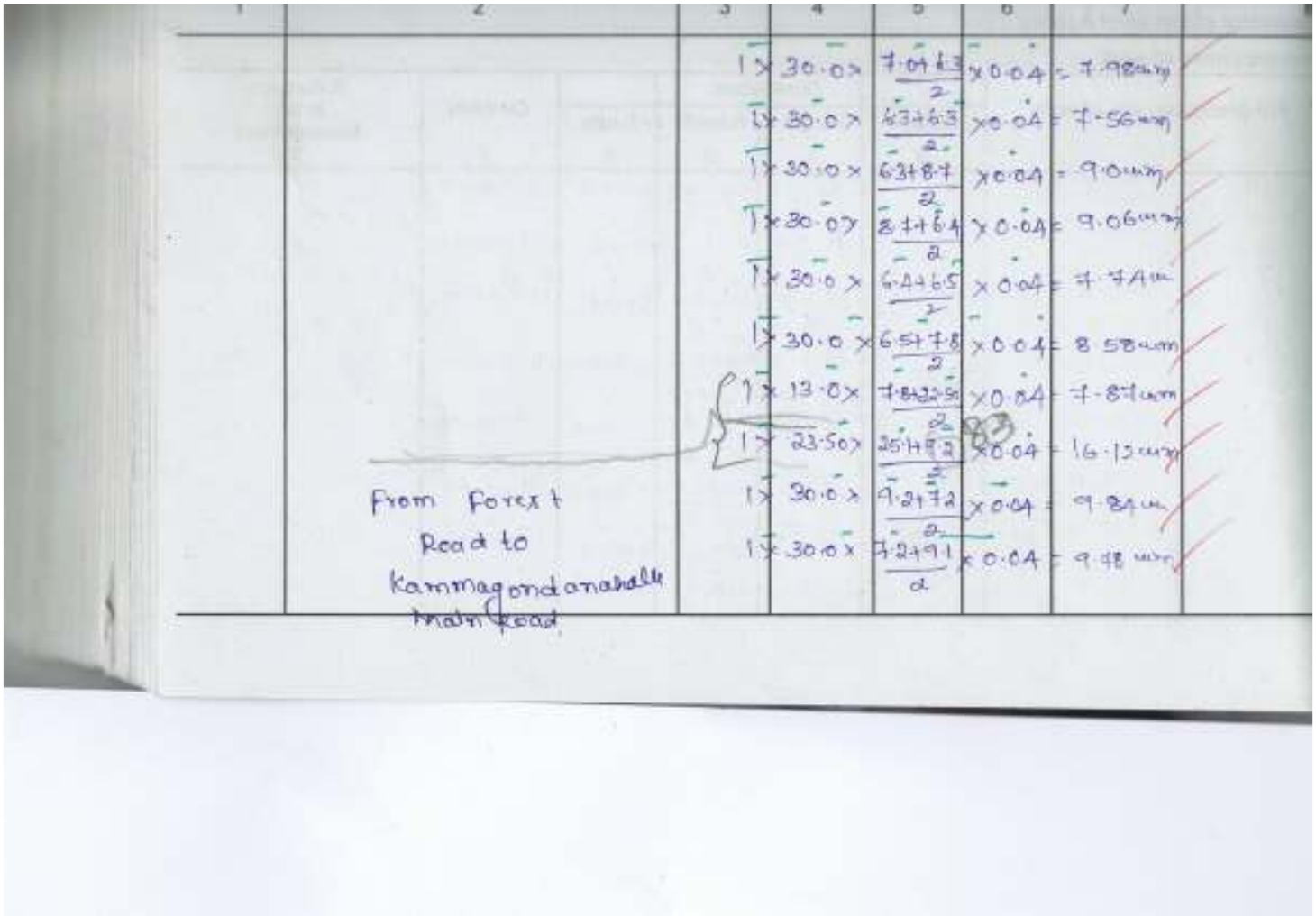
83141

From ..... To .....

Name of Contractor or nature of Agency.....

Name of Measurement of work.....

Reference to last Measurement 8	Full description, etc, of work 2	Number 3	Dimensions Length 4	Dimensions Breadth 5	Dimensions Depth 6	Contents 7	Reference to last Measurement 8
		1	30.0	$\frac{5.2+6.1}{2}$	x 0.04	= 6.78 cum	
		1	30.0	$\frac{6.1+6.1}{2}$	x 0.04	= 7.32 cum	
		1	30.0	$\frac{6.1+9.0}{2}$	x 0.04	= 9.06 cum	
		1	30.0	$\frac{9.0+8.2}{2}$	x 0.04	= 10.32 cum	
		1	30.0	$\frac{8.2+8.0}{2}$	x 0.04	= 9.72 cum	
		1	30.0	$\frac{8.0+8.0}{2}$	x 0.04	= 9.60 cum	
		1	30.0	$\frac{8.0+7.8}{2}$	x 0.04	= 9.48 cum	
		1	30.0	$\frac{7.8+7.0}{2}$	x 0.04	= 8.88 cum	



1	2	3	4	5	6	7	8
		1	30.0	7.04+6.3 / 2	x 0.04	= 7.98 cum	
		1	30.0	6.3+6.3 / 2	x 0.04	= 7.56 cum	
		1	30.0	6.3+8.7 / 2	x 0.04	= 9.0 cum	
		1	30.07	8.7+8.4 / 2	x 0.04	= 9.06 cum	
		1	30.0	6.4+6.5 / 2	x 0.04	= 7.74 cum	
		1	30.0	6.5+7.8 / 2	x 0.04	= 8.58 cum	
		1	13.0	7.8+2.5 / 2	x 0.04	= 7.81 cum	
		1	23.50	25.4+8.2 / 2	x 0.04	= 16.12 cum	
	From Forest Road to Kammagondanahalli main Road	1	30.0	9.2+7.2 / 2	x 0.04	= 9.84 cum	
		1	30.0	7.2+9.1 / 2	x 0.04	= 9.48 cum	

M. A. R. 57 (Rule 116)
Measurement Book

No. B

83142

Reference to last Measurement 8

Name of Work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Full description, etc, of work	Number	Dimensions: Length	Dimensions: Breadth	Depth	Contents	Reference to last Measurement
2	3	4	5	6	7	8
1st Main Kala talkies Main Road.	1	30.0	(9.1+10.2)/2	0.04	= 11.58 cum	
	1	17.50	(10.2+10.10)/2	0.04	= 7.28 cum	7.11
	1	30.0	(4.4+4.0)/2	0.04	= 5.04 cum	
	1	30.0	(4.0+4.4)/2	0.04	= 5.04 cum	
	1	30.0	(4.1+4.1)/2	0.04	= 5.10 cum	
	1	30.0	(4.4+4.5)/2	0.04	= 5.16 cum	
	1	13.0	(4.5+5.0)/2	0.04	= 2.47 cum	
	Limited to tender				358.32 cum 341.40 cum @ 11504=16 Rs.	350.44 3927520.00

MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
I-20	Carriage of mixed material to Kms Per item no 5.1 SOR Qty vide item no (19)					341.90 cum @ 56=16 M.B:-19173=00	
I-21	Disposal of Debris to the final place of disposal with all lead & lift and as incharge of the work. Qty vide item no. (1) + (2)		1688.5+35.0			2009.62 cum 2039.55 cum @ 78=71 M.B:- 146119=00	
	Total Amount Charges		9852499=00 9852499=00			9809758=00 980975=00	
			10837748=00			10790733=00	

Revised
4.5.14

M. A. R. 57 (Rule 116)

Measurement Book

No. B 83143

Sanctioned for Rs 10790735=00

9458409=00

From ..... To .....

Name of Contractor of nature of Agency .....

Date of commencement of work 1332324=00

Full description, etc, of work	Number	Dimensions: Length	Dimensions: Breadth	Dimensions: Depth	Contents	Reference to last Measurement
	3	4	5	6	7	8
Certified that contractor has done the work satisfactory. Certified that Contractor has removed all debris from work spot. Certified that there is no due work from contractor side. 29/5/14						

29.5.14

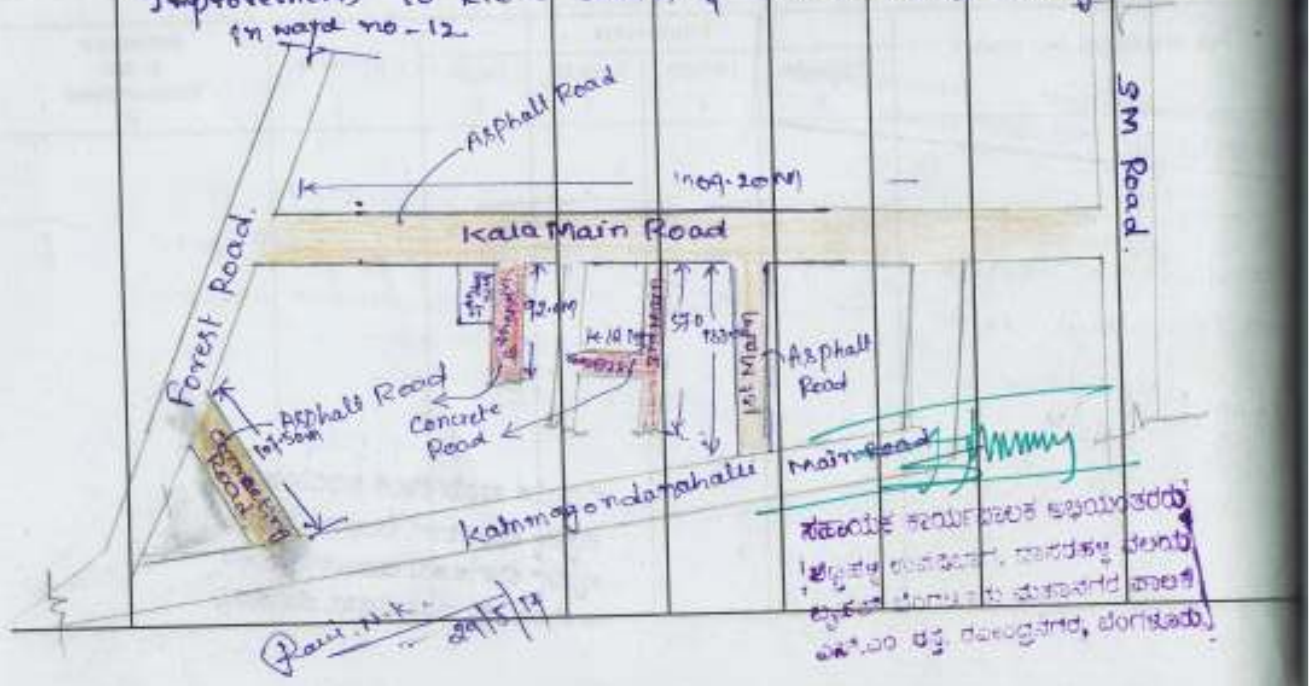
ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಕಬ್ಬನಪಾರ್ಕ ಉಪವಿಭಾಗ, ದಾಸರಹಳ್ಳಿ ವಲಯ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಎಸ್.ಎಂ ರಸ್ತೆ, ರವೀಂದ್ರನಗರ, ಬೆಂಗಳೂರು.

MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8

Improvements to R.C.C drain & Concrete Road Shettyhalli Road

in ward no - 12.



29/5/19